WHAT IS CLAIMED IS:

1. A lead frame comprising:

a plurality of leads arranged in parallel, wherein:

each of the leads is constituted by being divided into two portions of an inner lead portion and an outer lead portion;

the inner lead portion has a fine inner lead portion, and a middle inner lead portion for interconnecting the fine inner lead portion and the outer lead portion;

each of the middle inner lead portion and the outer lead portion has a second thickness and a second width;

the fine inner lead portion has a first thickness;

the fine inner lead portion has a tip of a first width, and a rear stage expanded in width from the first width of the tip to the second width of the middle inner lead portion;

the first thickness is smaller than the second thickness; and

the first width is smaller than the second width.

2. The lead frame according to claim 1, further comprising:

a plurality of spare leads each of which is constituted by being divided into two portions of a spare

inner lead portion and a spare outer lead portion, wherein:

the spare leads are arranged in parallel to be apart from the leads in areas between the middle inner lead portions of the adjacent leads; and

the spare leads are arranged from a boundary between the middle inner lead portion and the fine inner lead portion of the lead to the area of the outer lead portion side.

3. A semiconductor device, wherein:

an electrode of a first semiconductor element is connected through flip chip bonding to the fine inner lead portion of the lead frame of claim 1 by a bump formed on the electrode;

a second semiconductor element is stuck to a surface opposite a surface of the lead frame on which the first semiconductor element is mounted by a semiconductor element adhesive;

one end of a wire is attached to an electrode disposed on a surface opposite the surface of the second semiconductor element stuck to the lead frame;

the other end of the wire is attached to the middle inner lead portion of the lead frame;

resin sealing is executed to include the inner lead portion of the lead frame and the first and second semiconductor elements; and

the outer lead portion of the lead frame is

exposed from a resin-sealed portion.

4. A semiconductor device, wherein:

two first semiconductor elements are connected through an anisotropic conductive sheet to front and back sides of the fine inner lead portion of the lead frame of claim 1 by electrodes disposed on the first semiconductor elements and bumps formed on the electrodes;

a space between the first semiconductor elements and the inner lead portion of the lead frame is filled with an epoxy resin;

two second semiconductor elements are stuck to surfaces opposite surfaces of the first semiconductor elements stuck to the lead frame by a semiconductor element adhesive;

one end of a wire is attached to an electrode disposed on a surface opposite the surface of each of the second semiconductor elements stuck to each of the first semiconductor elements;

the other end of the wire is attached to the middle inner lead portion of the lead frame;

resin sealing is executed to include the inner lead portion of the lead frame and the two pairs of first and second semiconductor elements; and

the outer lead portion of the lead frame is exposed from a resin-sealed portion.